CLAIMS

What is claimed is:

1.   A method for supporting wireless communications, the
      method comprising the steps of:
5   allocating a first channel to support message
      transmissions from a base station to multiple field
      units;
            allocating a second channel to support message
      transmissions from the field units to the base
10   station;
            assigning time slots in the first and second
      channel for message transmissions between the base
      station and field units; and
            maintaining synchronization between a field unit
15   and the base station by analyzing a message received
      in a time slot and adjusting timing of a field unit by
      transmitting a feedback message to a corresponding
      field unit.

2.   A method as in claim 1 further comprising the step of:
20   partitioning the first channel into active and
      standby time slots, wherein active time slots
      correspond with field units transmitting a data
      payload on a reverse link traffic channel.

3.   A method as in claim 2 further comprising the steps
25   of:
            detecting a request by a field unit to transmit a
      data payload from the field unit to the base station;

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assigning the requesting field unit an active
slot in the first channel; and

allocating traffic channels to support a data
transfer between the requesting field unit and the
5   base station.

4.   A method as in claim 3 further comprising the step of:
reassigning a field unit a standby time slot in
the first channel after completion of the data
transfer.

10   5.   A method as in claim 3 further comprising the step of:
maintaining synchronization between a field unit
and the base station by analyzing at least one message
received on a traffic channel and adjusting timing of
the field unit based upon a feedback message to the
15   field unit to advance or retard timing.

6.   A method as in claim 5 wherein the base station
analyzes timing of a marker in the traffic channel to
maintain synchronization.

7.   A method as in claim 6 wherein the marker in a traffic
20   channel is a string of pilot symbols.

8.   A method as in claim 1 further comprising the step of:
dividing the first and second channels into a
predetermined number of time slots to support periodic
communications between the base station and each of
25   multiple field units.

9. A method as in claim 1 further comprising the steps of:

detecting a request by a field unit to establish a link with the base station;

5   analyzing the request to determine an initial timing adjustment to be made at the field unit for synchronization; and

transmitting timing adjustment information to the field unit for synchronizing the field unit with the

10   base station.

10. A method as in claim 9, wherein the timing adjustment information is transmitted to a field unit over a paging channel.

11. A method as in claim 9, wherein the timing adjustment

15   information is a multi-bit value transmitted to a field unit notifying the requesting field unit of an amount to advance or retard timing.

12. A method as in claim 1, wherein field units are notified of time slot assignments based upon messages

20   over a forward link paging channel.

13. A method as in claim 1, wherein the base station analyzes a field unit message and determines whether to advance or retard timing of the field unit.

14. A method as in claim 1, wherein time slots are

25   assigned in the first and second channel based on a predetermined offset.

15. A method as in claim 1, wherein a single bit in a time
slot indicates whether a corresponding field unit
should advance or retard timing.

16. A method as in claim 1, wherein message transmissions
5   on the first channel are encoded using BCH.

17. A method as in claim 1 further comprising the step of:
assigning short PN codes for use by a field unit,
a short PN code being transmitted by the field unit in
an assigned time slot to provide an indication to the
10   base station.

18. A method as in claim 17, wherein an assigned short PN
code indicates a request by the field unit to transmit
a data payload to the base station.

19. A method as in claim 17, wherein an assigned short PN
15   code indicates a request by the field unit to remain
in a standby mode.

20. A method for synchronizing wireless communications
between a base station and a field unit, the method
comprising the steps of:
20   assigning time slots of a forward link channel to
each of a plurality of field units in which a base
station transmits messages, each field unit
determining messages directed to the field unit based
upon receipt of a message in a particular time slot;
25   assigning time slots in a reverse link channel in
which the field units transmit messages to the base
station, the base station identifying from which field

unit transmitted a message based upon reception in a particular time slot;

adjusting message transmissions from each field unit such that messages transmitted from the plurality

5 of field units arrive at the base station in a corresponding time slot of the reverse link channel.

21. A method as in claim 20 further comprising the step of:

analyzing messages received by field units and

10 transmitting a message on the forward link to a corresponding field unit to adjust timing on the reverse link channel.

22. A method as in claim 21, wherein the message to adjust timing in the reverse link channel for a particular

15 field unit includes an indication whether to advance or retard timing.

23. A method as in claim 22, wherein the indication of whether to advance or retard timing is based on a single bit from the base station indicating to advance

20 or retard timing a first predefined amount.

24. A method as in claim 23, wherein timing is advanced or retarded based on a second predefined time if the single bit is a same state for a specified number of time periods in a row, the second predefined time

25 greater than the first predefined time.

25. A method for supporting wireless communications between a base station and a plurality of field units, the method comprising the steps of:

5 allocating a first channel to support message transmissions from the base station to the field units;

allocating a second channel to support message transmissions from the field units to the base station;

10 assigning a set of codes for use by a field unit, each code corresponding to a predefined function or request, a code being transmitted by the field unit on the second channel to provide an indication to the base station.

15 26. A method as in claim 25, wherein the set of codes is unique to each field unit.

27. A method as in claim 26, wherein the set of codes is a set of short PN codes.

28. A method as in claim 25 further comprising the step
20 of:

assigning time slots in the first and second channel for message transmissions between the base station and each field unit.

29. A method as in claim 28, wherein a code of the set of
25 codes indicates a request by the field unit to be allocated reverse traffic channels for transmitting a data payload to the base station.